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FAMILY COMMUNICATION ABOUT PLANS FOR
NATURAL AND NUCLEAR DISASTERS

Richard V. Farace, et al

Michigan State University

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December 1972

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Family Communication About Plans for
Natural and Nuclear Disasters

Richard V. Farace
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Department of Communication
Michigan State University
December, 1972

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13. ABSTRACT This report summarizes how 65 husband-wife couples (with children) discussed their plans for responding to natural (tornado) and nuclear disaster situations. The couples were interviewed in their homes, and their discussions were tape-recorded and later transcribed. A summary of their reactions to snoring home basements, how they would get alerted of a disaster, and how they would cope with the disaster is presented. The responses are grouped according to the saliency and awareness of the issues. Suggestions for improving the Agency's information campaigns for disaster situations conclude the report.		

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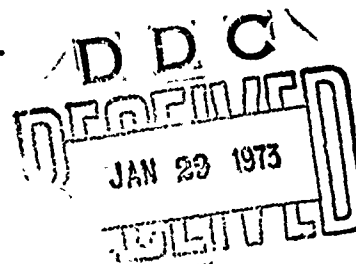
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Family Communication About Plans for
Natural and Nuclear Disasters

Project Director: Dr. Richard V. Farace

for

Defense-Civil Preparedness Agency
Department of Defense
Washington, D.C. 20301



REVIEW REPORT

This report has been reviewed by the Defense-Civil Preparedness Agency and approved for publication. Approval does not signify that the contents necessarily reflect the views and policies of the Agency.

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I-C

Table of Contents

	<u>Page</u>
Table of Tables	ii
Introduction	1
Willingness to Share Home Basements	4
Factors Influencing Disaster Preparedness	10
How they would get alerted	15
How to get together	15
Where to go	17
What to take with them	20
How to protect against the effects of the disaster	21
Home Sharing	22
Two Summary Factors Influencing Preparedness Levels	24
Suggestions for New Information "Packages"	25
Summary and Discussion	31

Table of Tables

<u>Table No.</u>	<u>Page</u>
1. Estimates of Respondents' Willingness to Share Home Basements	5
2. Willingness to Share Own Basement with Strangers and Willingness to Use Neighbor's Basement	7
3. Preparedness Typology Based on Awareness and Saliency	26

This report is the second of two publications prepared by the Department of Communication at Michigan State University, for the Defense-Civil Preparedness Agency, in connection with our current research on ways to improve the Agency's effectiveness in communicating disaster preparedness information to the general public. The initial report, "An Analysis of A Community Shelter Plan Information Campaign," gives our assessment of the overall effectiveness of a Community Shelter Plan (CSP) conducted in Dayton, Ohio during July, 1971. In addition, that first report contains several suggestions on ways in which future CSP information campaigns might be made more effective.

The present report focuses on an additional but closely related area of concern: (a) family communication and decision processes for disaster preparedness (including home sharing).

Our specific objectives are: (1) to identify public attitudes

¹See An Analysis of a Community Shelter Plan Information Campaign, by Richard V. Farace, Kenneth L. Villard, and Steve E. Lodle, Department of Communication, Michigan State University, May, 1972.

/

about home sharing, i.e., their willingness to share their basement shelter with neighbors and/or strangers, and also their willingness to go to another person's home for shelter in case of a natural or nuclear disaster, (2) to identify those specific areas where public knowledge about behavioral alternatives in disaster planning appears to be seriously lacking, (3) to describe two main summary factors which seem to influence the level of disaster preparedness as reflected in family discussions about disaster planning, and (4) to make some suggestions about information "packages" that should alleviate these deficiencies.

The data base for the present report comes from two sources. First, the information on "willingness to share home basement shelter" was obtained from 400 telephone interviews conducted in Phase I of the study. Next, we selected a subset of the original 400 interviews and went to 65 homes, where we interviewed both husband and wife together.

These interviews had two parts: first, each member of the husband/wife pair completed a questionnaire describing a variety of their communication behaviors, including their sources for receiving information about disaster-related topics. Then, each couple was presented with four different topics and asked to spend up to 15 minutes together discussing each one. Two of the topics were related to civil defense matters--one on their plans for response to a tornado, and the other on their plans for coping with a nuclear attack. These

discussions were tape-recorded and brought back to Michigan State. Each tape was transcribed; the transcriptions were content analyzed to identify the major themes, issues, problems and uncertainties that arose during the discussions of disaster topics.

Willingness to Share Home Basement Shelters

In the Phase I telephone survey, respondents were asked questions about the willingness of their neighbors to share basements with both their neighbors, and with strangers, in the event of a community disaster. In addition, the respondents were also asked about how willing they themselves were to share their own homes with strangers, or to seek shelter in the home of another neighbor.

The questions were asked in this manner for several reasons. First of all, the respondent's perception of their neighbors' willingness to share will undoubtedly have some effect on his or her own willingness to go to that neighbor and ask to share the home. Secondly, in questions concerning willingness to share with others, there is a strong bias operating toward the more "socially acceptable answer," i.e., a definite pressure to say you are willing to share. By asking what the respondent believes others would do, the social bias is partially reduced and the respondent should feel less pressure to give a socially acceptable answer and should be more likely to give a response that reflects not only his neighbor's attitudes but his own as well. Although it is often difficult to determine the exact effect of this bias, the actual willingness of people to share with strangers is probably best measured by looking at both what they say others will do as well as what they say they themselves

will do. Therefore, if we are interested in an overall level of willingness, it probably lies somewhere between the two levels of responses.

In the telephone interviews, respondents were specifically asked:

1. "If a disaster occurs, how willing do you think most people in your neighborhood would be to share their home...or their basement...with their neighbors?"

and secondly:

2. "How willing do you think people in your neighborhood would be to let a stranger share their home in case of a disaster?"

The responses to these two questions are shown in Table 1 below.

Table 1

Estimates of Respondents' Willingness to Share Home Basements

<u>Willingness of People In Your Neighborhood To Share Their Base- ment</u>	<u>Type of Person Asking to Share</u>	
	<u>Neighbor</u>	<u>Stranger</u>
Very willing	63%	30%
Fairly willing	19	28
Not willing	7	15
Depends on who it is	0	5
Don't know, can't say	10	20
No response	1	2

While these results show a general overall willingness to share, there are some notable differences, depending on the type of person asking to share and how we interpret the data. For example, if we combine the categories of very and fairly willing, we find that four

out of five (82%) persons believed their neighbors would be willing to share with other neighbors. For strangers, three out of five (58%) feel others would be willing to share.

On the other hand, if we interpret the fairly willing category as a conditional one, i.e., "maybe they will and maybe they won't," and therefore only consider the very willing responses, the pattern changes markedly. Now we find that three out of five (not four out of five) are very willing to share with neighbors. Less than half that number--30%--show that level of enthusiasm for sharing with strangers. In addition, where only 10% respond to the query about sharing with neighbors by saying it "Depends on who it is" or "Don't know, can't say," 25% indicated that their willingness to share with strangers would be determined by "who it was," or other situational factors.

When we compare these results with the findings from similar studies, we note generally close agreement. In the Michigan Home Fallout Protection Survey study conducted by MSU in 1967-68, about nine out of 10 persons interviewed indicated a willingness to share with neighbors in the event of a storm; eight out of 10 would share in the event of nuclear fallout. However, when we asked about willingness to share with strangers in either of those disaster situations, only about six out of 10 indicated the same level of willingness.²

²David K. Berlo. Public Opinion on Sharing Home Basements During Storm or Radioactive Fallout Disaster. Department of Communication, Michigan State University, Report No. 3, April, 1970, p.3.

A similar study conducted nationally by researchers at the University of Pittsburgh also found a high proportion (90%) of persons willing to share their home with others in their general neighborhood.³

In addition, two other questions about home sharing were asked:

1. "How willing would you be to share your home with a stranger in case of a disaster?"

and secondly,

2. "If you thought another house in your neighborhood offered much better shelter than yours, how willing would you be to go to that house and ask to share it?"

The responses to these two questions are shown in Table 2.

Table 2

Willingness to Share Own Basement with Strangers
And Willingness to Use Neighbor's Basement

<u>Willingness to:</u>	<u>Responses</u>
<u>Share Own Basement</u> <u>With Strangers?</u>	
Very willing	54%
Somewhat willing	24
Not willing	6
Depends on who it is	10
Don't know, can't say	5
No response	1

³Mast, Robert H., Jerome Laulicht, and Roy Knestrick. Americans' Perceptions of the International and Civil Defense Environments: 1968. Pittsburgh: University of Pittsburgh, Department of Sociology, September, 1968, p. 50.

Table 2 (cont'd)

<u>Willingness to:</u>	<u>Responses</u>
<u>Use Neighbor's Basement?</u>	
Very willing	48%
Somewhat willing	22
Not willing	17
Depends on who it is	3
Don't know, can't say	9
No response	1

Here again we clearly see that a very large proportion of the general public testifies that it is willing to share with strangers. About four in five (78%) are willing to share (if we combine both the "very" and "somewhat willing" categories). If on the other hand, we consider the "very willing" category as the most stable one, we then find that only about half (54%) report a willingness to share with strangers. The reader might also note that while 58% said people in their neighborhood would share with a stranger, 78% of the respondents said they themselves would share.

Would people go to someone else's home? About seven out of 10 (70%) indicated some degree of willingness to do so, but only half (48%) stated that they were very willing to do so. It is also interesting to note here that 17%, or about one out of five persons, indicated that they were not willing to do so. Although this is not a major proportion it still represents a sizeable number of people. In the Michigan Studies, we found only one out of 20 not willing.⁴

⁴ Berlo, p, 5.

Likewise, the Des Moines-Polk County study carried out by Iowa State University, found that between 70% and 90% of those surveyed indicated a willingness to go to someone else's basement in the event of a nuclear attack.⁵

From these data we can therefore conclude that Dayton area residents report a strong willingness to share their home with neighbors, but are somewhat less willing to share with strangers (between 54% and 78%), depending on situational factors. In addition, although a large percentage of them are willing to go to another home for shelter (70%) a considerable proportion of them are not (17%).

The major conclusion from these results can be summarized as follows: Our results, and the results of other Agency researchers, consistently indicate that very large proportions of the general public express their willingness to share their own home, or use others', in time of disaster. This is a critical point, and it should be kept closely in mind, because we would like to qualify it by pointing out the opposite view: a substantial portion of the public does not enthusiastically endorse sharing, not necessarily because they are opposed to it, but because they simply do not realize the complexity of the situation when they are asked the question by researchers. In addition, these questions are typically asked of isolated individuals, and the decision-making process in families usually includes other

⁵Yarbrough, Paul, and Gerald E. Klonglan. The Home Fallout Protection Survey and Resulting Changes in Shelter Adoption. Ames: Iowa State University, Department of Sociology and Anthropology, Rural Sociology Report No. 85B, September, 1970, pp. 95-96.

family members, particularly the spouse. Both factors--complexity, and the appropriateness of the response to the actual decision-making process--suggest that the whole issue of home sharing is a much more difficult one to treat than the earlier research would indicate. For these reasons, then, we will turn next to our in-depth discussion with husband-wife couples.

Factors Influencing Disaster Preparedness

The data for this portion of the report were collected during the Spring of 1972. To be eligible for the Phase II portion of the study, respondents from the Phase I telephone survey had to meet two criteria: in addition to being married, the family must have had at least one child under 12 years of age. Out of the 400 telephone respondents, 141 families met the above criteria. Of that number 65 were interviewed, 33 were not at the residence where they were contacted in the winter for Phase I or were not available during the three week field interviewing period, and 44 declined to take part in the study. A major reason for not participating in these interviews was the difficulty many couples had in finding time they were together that they were willing to devote to the interview. All families were contacted personally, given an introductory letter concerning the purpose of the study and told that they would receive ten dollars for participation in the study.

Two types of information were obtained in the interview. Each

person filled out a self-report questionnaire concerning how things were done in the family. Then, each couple was given four topics to discuss and asked to talk with each other about the issues involved. Two of these topics dealt with family behavior in disaster-related situations. In one they were told that they had 15 minutes to prepare for a tornado and to discuss with one another the family's plans for protection. In the other, they were given a nuclear emergency situation and told that they would have two hours to prepare for the arrival of nuclear fallout. All the discussions were tape-recorded. The information contained in the remainder of the present report has been drawn from those dialogues between marital partners.

From our interviews in Phase II, we identified two factors which are important in determining the general public's level of competence in disaster preparedness and which also relate to the feasibility of any organized home sharing program. Although many of the attitudes here included have been previously described throughout the home sharing literature, at least some represent novel insights into the public's perception of disaster preparedness and the factors which explain general public behavior. Where possible, actual dialogue from the interviews will be cited as supportive examples.

First of all, for those persons who have never personally experienced a tornado or nuclear attack nor had any opportunity to view the damage these disasters are capable of causing, the reality

of such situations is a set of vague abstract ideas. For some people it is very difficult to view themselves in that situation.

(Note--W. always refers to wife. H. to husband)

W. "You hear how terrible they are but never having seen one or anything like that I don't really take them seriously I guess.

* * * * *

W. "For some reason, I find it...find it very difficult to... to even think in terms of nuclear attack as a reality. I...I don't feel the threat, I don't feel threatened by nuclear attack."

* * * * *

H. "Until you're affected by it I imagine you don't have any real fear of it."

In addition to those people who can't really see it happening to them, there are those who can but would rather not, because it is uncomfortable to think about:

W. "I've never allowed myself to think about it too much. I just never allowed myself to dwell on it."

Another situation which helps support the idea that "those things don't really happen to us," especially in the case of tornadoes, is the very frequent occurrence of tornado "warnings" and "watches." From our interviews, it appears that a large proportion of the public disregard such warnings as commonplace, everyday occurrences.

W. "But as I say this has happened time and again, I don't know that there's ever been a season, that we haven't had three, four or five or more tornado warnings and everyone, oh they get a little excited about it, but it's all talk. Nobody ever does anything. Have you ever known anyone to really take precautions for a tornado?"

- W. "No one pays any attention to tornado warnings outside of acknowledging that they exist and about how that it's been lifted now. But no one does anything outside of the ordinary, you don't avoid going anywhere. You don't avoid driving, you don't rush home."

* * * * *

- W. "The only conflict we ever have when there are tornado warnings, and this does come up, quite often they come up on a week-end night when we have plans and, because of my fear of tornadoes, I want to stay home with the children and my husband says it's ridiculous. So we usually don't stay home."

* * * * *

- W. "We'd probably have some neighbors scooting in and we'd all head to the basement and sing at the top of our lungs. But I think the big thing here is that the tornado warnings are broadcast so frequently that it seems now that a tornado warning almost seems impersonal. I see them all the time on the television or hear them on the radio and I've got to admit that I disregard most of them because they do it all the time."

- W. "But I really think, realistically, we would probably do nothing. Ideally of course, we'd probably grab all the kids and do everything that you're supposed to. But you'd do that about three times and not have a tornado, you'd have a little trouble with the kids along about the fourth time."

One of the results of frequent alerts and no tornado is to reinforce the notion that "those things don't really happen to us," with the end result a decreased willingness to develop disaster plans and to take precautionary measures.

Also involved in this overall factor is the tendency of people to feel that tornadoes are very isolated occurrences and therefore, have a low probability of affecting them, if indeed, at all.

- H. "Even if the tornado came, they're so localized that the chances of one actually hitting our house are so small, there's no more cause for worrying than worrying about a truck running over your car out in the highway."

* * * * *

- W. "A tornado warning somehow is the sort of thing that happens to them and not us."

Therefore, if people cannot conceive of a specific disaster as happening to them, are not threatened by it, or view the probability of it as extremely remote, it seems likely that they will not develop specific shelter plans and/or implement them adequately.

A second factor which appears equally important in determining whether families develop disaster plans is their level of awareness of behavioral alternatives in a disaster situation, i.e., do they know what kinds of things they can do and how to do them?

Our interviews generally supported the view that people are generally uninformed about the behavioral alternatives open to them, at least in the hypothetical tornado and nuclear emergency situations which we specifically studied.

In their taped discussions, marital partners discussed the following types of issues: (a) how they would get alerted, (b) how to get together, (c) where to go, (d) what to take with them, (e) how to protect themselves from the effects of specific disasters, and (f) whether they would share with neighbors and under what conditions.

How they would get alerted. How would families find out about such a disaster? Most people indicated that they would probably hear about it from the mass media, usually TV or radio, either directly or "indirectly".

H. "We keep telling them that when they get so close, they will change the pattern on the picture tube. The television will pick it up and let you know and the automobile radio will pick them up."

Others indicated that they would more likely hear the warning sirens, but once again some voiced the "disregard" with which warnings, signals, and alerts are treated.

H. "You hear the sirens, the test sirens all the time and, like most people, you figure it's just another test siren, and...when it's the real thing, unless you have a radio, or a radio on, or you get a phone call, you're not really going to know."

How they would get together. An issue which received much attention in family discussions was the question of how family members would get together - would assemble in time of disaster. The three situations which were described most frequently were: (1) husband at work, (2) children at school, and (3) children out of the home on errands or playing. Although this issue appeared to be most salient in nuclear emergency discussions, several questions about tornadoes seemed important.

First of all, parents were generally ignorant of whether their children's school had adequate shelter facilities or disaster plans in the event of a tornado; thus, a number of wives indicated that they

would go to the school and get their children. Secondly, if the children were outside playing and away from the home, many parents said that, although they had not told their children what to do specifically in the event of a tornado, the children had been told to come home when a storm approached. Others stated that they would "call around" in hopes of locating their child or expressed the hope that someone would "take him in."

In regard to nuclear emergency, the issue of how the family would get together was a highly important one. Almost without exception, the wives expressed the idea that they felt totally unprepared to handle such an emergency alone and would depend on their husband to tell them what the family should do. The husbands indicated that they would come directly home from work and collect the children from school, at the same time indicating that they didn't know whether the school had a disaster shelter or not. Some parents even said that although the school might well be a safer place for their child, they would still prefer to have the family together at home, "come what may." Very few of the husbands or wives considered the congestion and chaos on the public streets as something which might prevent the family from getting together, and rarely discussed the possibility of family members having to face the disaster separated from one another. This point is of obvious crucial importance in developing procedures for moving people to shelters, especially public ones.

Where to go. By and large, when couples talked about where they would go in the event of a disaster, they rarely mentioned public shelters. Even when they did, they tended to raise the issue of "How many people could a public shelter hold?" When measured against the population of the city, they felt that either the shelter would be overcrowded and they themselves would not be able to get in, or that the shelters were probably unprepared for a calamity the magnitude of a nuclear fallout.

H. "Imagine I would be more prepared to go to the city's buildings...where they're supposedly stocked for a disaster and whether they are or not I don't know. This is something...I think Civil Defense hasn't been taken too seriously..."

In the case of a tornado, those families which indicated they would leave their home in preference for a public building usually said that they would go to a neighborhood church or school regardless of whether it was an authorized CD shelter. Usually these were families without home basements.

Another surprisingly common solution in both the case of the tornado and nuclear fallout was the decision to get into the family car and drive away from the disaster. The decision of which direction to drive was usually determined by the direction of the prevailing winds which carries the fallout material (no one considered the possibility of multiple nuclear explosions) or by the predictability of the path of a tornado. Also some families indicated a willingness, in the event of a nuclear attack, to drive out into the countryside

to the home of some relative who had "a fruit cellar" or "dried up cistern."

H. "Well, again if you had fifteen minutes and you know it was heading in your general direction, in fifteen minutes you could get quite aways away. Just go ninety degree angles to where it's suppose to be going."

However, in both the case of the tornado and the nuclear emergency, the majority of the families, especially those with basements, indicated a willingness to remain in their home and use their basement as a shelter, usually constructing makeshift mini-shelters in one corner, under the stairs or under the steel beam supports.

The biggest question in regard to basement protection in the event of a tornado was which specific side or corner of the basement was the safest. Actually there were about as many theories about "which area" and the reasons for it as there were families. In addition to being insightful about what families know about preparedness, there were some good examples of the actual decision making process and the factors they take into account when trying to determine what to do. Above all else, they point directly to the lack of specific planning by the families cited. Although this example has its light side it was not included for this reason and should not be considered atypical of the process by which families discuss decisions of this type.

- W. "I, it...well, I imagine that if the tornado warning is broadcast, we'd probably would get all the children right here, and go to the basement.
- H. What part of the basement do you go to?
- W. I'm not sure, is it the southwest? Or is that where the tornado comes?
- H. That's where it comes from.
- W. Then which way do you go?
- H. Let's see now...that's where, yeah, that's where you go.
- W. Oh, that's right.
- H. And where would that be?
- W. OK, let me think for a minute, let's see...the southwest corner of our basement would be...
- H. Which way is Peoria?
- W. I don't know, that is what I am trying to think of.
- H. Which way is Cincinnati?
- W. That way.
- H. Right.
- W. Peoria is that way.
- H. Yeah.
- W. OK.
- H. So where is southwest?
- W. Peoria is north, right?
- H. No, west.
- W. Peoria is west, southwest should be that way.
- H. Yeah.

W. OK, so it would be the corner right down by the water heater.

H. Right!

W. So that's where we'd go, right?

H. Uh huh."

* * * * *

W. "Well, the first thing we'd do, we'd argue which wall we're supposed to stand against, when you go down the basement. Right?"

Although the basement was the most frequently mentioned portion of the home in the event of a nuclear attack, other areas of the home were also mentioned as possible shelter areas in tornado situations. A number of families indicated that they believed the bathroom to be the safest place, primarily because of the "heavy" fixtures and few windows, which they believed would protect them. Other families suggested pushing heavy living-room furniture together against one wall, or getting under tables or desks somewhere on the main floor of the home. And still other families said they would get inside the family car in the garage or back the car out and construct a shelter in the garage itself.

One additional and important issue which relates to the question of where to go is "What do you do if the disaster occurs at night and you have perhaps only a few minutes to act?" The situation of most concern to families is if a tornado occurred while the family is asleep, and hence arrived with virtually no warning. Some indicated that they would roll under the bed, but most felt powerless and fatalistic about their welfare.

W. "The thing that would worry me is like if you were sleeping. This type of thing. Well, I guess there's nothing to worry about. I'd be over with."

What to take with them. In the event of a tornado, most couples stated that they would take a varied range of things to the basement with them. Among those most frequently mentioned were: cookies, crackers or games to occupy

the children, pillows for the children, canned foods, water and blankets. Other things which were mentioned, but much less frequently, were first-aid kits, flashlights, transistor radios, and tools.

In the nuclear emergency, supplies became a much more important issue, and most families recognized the need to have large amounts of food and water because of the possibility of a long period of confinement, including problems from contamination of outside water or food sources. A few indicated that they would take garbage cans or buckets to be used as sanitary containers and almost all indicated that they would take a transistor radio in order to keep informed. Very few dealt with the issue of radiation and what that would do not only to their supplies, but to themselves as well.

How to protect themselves from the effects of the specific disaster.

In regard to tornados, three issues seemed to be of most concern to families: electrical or gas fires, being trapped inside the ruins of the home, and how to cut down on flying glass. Although some families saw the need to shut off electricity and gas jets, and to stay away from windows, most families were primarily concerned with what a tornado would do to their home, whether or not they'd be trapped in the ruins, and how a tornado actually caused its damage.

There was a large amount of discussion about what to do with the windows and as in the issue of "which corner of the basement is the safest," there was a wide range of opinion about which windows were to be opened, how much and why this was an important thing to do.

W. "Uh, all right now are you supposed to open every window in the house, or is it only those on the southwest corner?"

* * * * *

W. "They said something about, are you supposed to close all of the windows, or open all the windows on a tornado?"

* * * * *

H. "Probably another thing I'd like to do is to open a window, I believe in the southwest corner. I think this is one of the admonitions that they give.

W. "Do you have to open another window or just the one?"

H. "No, just the one."

* * * * *

H. "If it's doing to pick the house up, it's going to pick it up at a slant. We'd go in a corner. It's not going to pick a house straight up. It's a suction...where I think...where... I really don't know what a tornado is..."

In regard to nuclear emergencies, most families were even less knowledgeable about what to do and why they should do it. Although a few families indicated that they would fill the basement window wells with dirt to partially prevent radiation from entering the home, most families were unprepared to discuss how they would protect themselves from the effects of radioactive fallout.

The general lack of understanding about radiation was evidenced by such questions as: (a) Does radiation come in with the air?, (b) Can radiation go through wood and brick?, (c) How much radiation can a person stand and how would we know if we had too much?, (d) How long would we have to stay "down there"?, and (e) What would we do when we came up?" As a result most families disclosed a very pessimistic attitude toward their prospects as their discussions concluded.

Home sharing. When families talked about sharing their home with others in the event of a disaster, their immediate response was to share with all comers. However, when they started discussing the complex issues of food spoilage and limited water supplies, space limitations, who would be in charge, how the rules would be set and enforced, etc., then they became much more restrictive about who they would admit. This was

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H. "No, just the one."

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H. "If it's doing to pick the house up, it's going to pick it up at a slant. We'd go in a corner. It's not going to pick a house straight up. It's a suction...where I think...where... I really don't know what a tornado is..."

In regard to nuclear emergencies, most families were even less knowledgeable about what to do and why they should do it. Although a few families indicated that they would fill the basement window wells with dirt to partially prevent radiation from entering the home, most families were unprepared to discuss how they would protect themselves from the effects of radioactive fallout.

The general lack of understanding about radiation was evidenced by such questions as: (a) Does radiation come in with the air?, (b) Can radiation go through wood and brick?, (c) How much radiation can a person stand and how would we know if we had too much?, (d) How long would we have to stay "down there"?, and (e) What would we do when we came up?" As a result most families disclosed a very pessimistic attitude toward their prospects as their discussions concluded.

Home sharing. When families talked about sharing their home with others in the event of a disaster, their immediate response was to share with all comers. However, when they started discussing the complex issues of food spoilage and limited water supplies, space limitations, who would be in charge, how the rules would be set and enforced, etc., then they became much more restrictive about who they would admit. This was

particularly the case in discussing nuclear emergencies which would involve an extended period of confinement and to some extent a loss of social order.

H. "As far as sharing our home with neighbors again depending on the length of time, I mean I wouldn't want 50 people storming in here you know, and just packing, standing shoulder to shoulder but a reasonable..."

W. "If they brought their own food and water, it would be all right."

* * * * *

H. "Would you call your neighbors?"

W. "Well, I suppose if I had time and got organized enough I'd call them but I imagine they'd know, too, if I knew..."

H. "Well, would you call them and see what they were going to do or whether they need to come down here?..."

W. "Provided I thought that far ahead at the time. Now first I'd have to worry about getting us in there and getting all the stuff we needed. Then I'd worry about my neighbors."

* * * * *

W. "Well, wouldn't you like someone else there with you to, say, to help, I mean?..."

H. "To be very honest with you, I would prefer that it was..."

W. "Just us?"

H. "Just us down there!"

When families discussed the possibility of going to someone else's home, some felt they would rather stay in their own home (even though with poorer protection) than take a chance of being rejected. Another attitude equally common was a reluctance to be dependent on someone else, even if survival may be involved.

H. "Even if you'd go there we don't know them that well, that we could really say for sure we'd get in. So, probably just stay in the center of the house and..."

W. "No. I wouldn't take a chance on going out and being turned away anywhere."

In drawing some conclusions about the overall level of awareness of behavioral alternatives, one factor should be kept in mind in regard to the sample population. Since these families had been recipients of CSP materials, and were included in the Phase I portion of the study, where they were questioned about a number of disaster preparedness topics, we would expect them to be, if anything, more informed than the rest of the general public and therefore more likely to have a higher level of competence in both general disaster knowledge and the ability to formulate specific disaster plans.

The overall conclusion we must reach from the generality, vagueness and inaccurate replies of the families interviewed is that the majority of them have an insufficient level of awareness to deal at all effectively with disaster situations.

Two Summary Factors Influencing Preparedness Levels

Thus far, we have dealt with the major areas where public attitudes and knowledge are important in determining whether or not families develop specific plans for handling disasters. Next, let us take a closer look at two major factors which seem to explain our earlier observations:

1. Personal Saliency -- whether families can conceptually deal with the possibility of the disaster as potentially happening to them; e.g., whether their attitude is "It could happen to us" or "I can't see it happening to us". Obviously, if families cannot conceptualize a nuclear attack or tornado as actually happening to them, then it is unlikely that they will either expose themselves to disaster preparedness information or develop specific plans for coping with it.

2. Awareness of Behavioral Alternatives -- whether families have an awareness of the behavioral alternatives open to them in the disaster situation. If families are uninformed of what alternatives are available in coping with disaster situations, then it is unlikely that they will be able to develop specific plans.

In order to see how these factors might operate jointly, and the kinds of public attitudes that might result from different combinations, let us examine a more graphic representation of both factors: see Table 3.

In reviewing what families generally said to us in the interviews, coupled with the fact that few families indicated that they had specific disaster plans, we can conclude that very few families fall into the High Saliency-High Awareness cell (A- highest level of preparedness). And according to our view, both high saliency and high awareness are necessary conditions to achieve any sophistication in disaster planning. Most families fall into cells C and D.

Suggestions for New Information "Packages"

According to our model, then, if we want to raise the overall levels of both awareness of behavioral alternatives and personal saliency, what specifically can we do so that families are more likely to be prepared and to formulate disaster plans?

First of all, in regard to awareness, the Agency should consider directing its public communication efforts to answering the specific questions which people have. For tornadoes, the most frequently asked questions were (not in order of priority):

Table 3

Preparedness Typology Based on Awareness and Saliency

		<u>LEVEL OF PERSONAL SALIENCY</u>	
		<u>HIGH SALIENCY</u>	<u>LOW SALIENCY</u>
		"It could happen" (to us) therefore it is <u>important</u>	"I can't see it happening" (to us); therefore it is <u>not important</u>
<u>LEVEL OF AWARENESS</u>	<u>HIGH AWARENESS</u>	<p>A. Attitude: "It could happen and I know what to do"</p> <p>Results: likelihood of <u>specific family plans</u> and <u>feelings of control over the situation</u></p>	<p>B. Attitude: "I can't see it happening, but I know what to do"</p> <p>Results: likelihood of <u>generalized plans</u> with <u>some feelings of control over the situation</u></p>
	<u>LOW AWARENESS</u>	<p>C. Attitude: "It could happen but I don't know what to do"</p> <p>Results: likelihood of <u>no plans</u>, a <u>fatalistic and fearful outlook</u> or reluctance to think about it. e.g., "I'd rather not think about it", "If it happens, it happens, there's nothing I can do."</p>	<p>D. Attitude: "I can't see it happening and I don't know what to do"</p> <p>Results: likelihood of <u>no plans</u>, with <u>unconcerned attitude</u>, e.g., "It'll never happen", "It won't happen to me."</p>

1. How much damage can a tornado do?
2. Should I turn off the electricity and gas?
3. What is the likelihood of being trapped in the ruins of your house, i.e., does a tornado cave in a house on top of its foundation or does it blow it outward?
4. If a tornado hits, does it usually take just the top of the house off? Are people in the bottom floors generally safer than those in the top?
5. Do tornadoes destroy by causing a vacuum? If yes, how?
6. Should I open the windows? Which ones and how much?
7. How can you cut down on the amount of flying glass, or isn't that a problem?
8. What kinds of homes can withstand a tornado?
9. Where in the various types of homes is the safest place?
10. What areas of the country are high tornado frequency areas? How about where I live?
11. How wide a path does a tornado follow?
12. Does it follow a straight line or zig-zag unpredictably?
13. How quickly does a tornado move?
14. Is it a good idea to try driving away from the tornado?
15. How long does a tornado last?
16. What does it sound like, especially if it happens at night?
17. Is there a warning signal that's given to warn of the approach? What does it mean? How do tornado warnings and watches differ?
18. What specifically can we do to protect ourselves?
19. What should we take with us?
20. Are schools and churches prepared for such disasters?

In regard to nuclear attack, the most frequently asked questions were (not in order of priority):

1. What is the difference between nuclear blast and nuclear fallout?
2. How far away from the blast would I have to be to survive initially?
3. What effect do prevailing winds have on fallout? Therefore, if you know where the blast occurs can you get away from it?
4. How long does radiation last?
5. How much radiation can you take before it's lethal and/or causes permanent damage?
6. How do you know if you're getting radiation poisoning and what can be done to limit this?
7. If you were in the basement, would radiation get in with the air?
8. Can radiation contaminate canned foods and water? If so, is there any way of protecting these supplies?
9. How long would we have to stay in a public or basement shelter after a nuclear fallout?
10. Are the community shelters really stocked with supplies, i.e., food, water, medicine, etc.?
11. Where are the public shelters?
12. Shouldn't we be reluctant to go to public shelters, after all, not everyone could possibly get in plus, they're bound to be very impersonal, hectic and tense?
13. Shouldn't we all try to get together as a family before we do something?
14. How do we get the children home?
15. Are the schools provided and equipped in the event of a nuclear attack?

16. Should I call my neighbors to see where they're going?
17. Should we go to strangers home for shelter and impose on them?
18. In case of nuclear attack, what does Civil Defense recommend in terms of public phone and roadway usage?

From these lists and other sources, the Agency could develop a list of specific procedures for handling specific disaster situations. This might be presented as a numerical listing of what to do in a given disaster situation, i.e., this is what you do 1st, 2nd, 3rd, etc. The form in which this information should be presented is extremely important in determining how it will be received and processed by the family. We suggest a one-page, gummed backed card board poster (approximately legal size, 8 1/2 x 14) which contains two sets of information: (1) a list of short, concise answers to the most common questions under a heading such as Twenty Most Frequently Asked Questions About Tornadoes (or perhaps something "catchy," e.g., What I Always Wanted to Know About Nuclear Fallout But Was Afraid to Ask and (2) step by step procedures that the family should follow in the event of nuclear attack.

We suggested the gummed back cardboard so that it could be put up on a basement wall or basement cupboard and therefore be readily visible, yet less likely to be lost or thrown away.

The second question of how to deal with the issue of personal saliency is a more difficult one to answer. From our interviews, two notions appear to stand out: (1) people are especially interested in

preparedness if they believe or see that it could affect their children. For example, when parents discussed what they would do if a disaster occurred and the children were out of the home, many parents reminded each other to discuss with their child the next day what he or she should do. This was especially true in the case of tornadoes. Therefore, this might be one way of introducing preparedness topics in the family discussions, i.e., providing the information to the parent and raising questions such as "Does your child know what to do if. . .". If the parent then sees the need and discusses the subject with the child, not only do the individual children and parents become more knowledgeable, but the family as a unit will probably be more prepared. (2) Saliency is directly related to things which potentially affect the family's everyday life. What we are saying here is that if an attempt is made to raise the saliency of tornadoes within a community, then there must be a real or at least perceived threat of tornadoes occurring. If you are interested in improving the overall level of disaster preparedness, then emphasize precautions against the specific disaster which is the greatest actual threat to that community, the one which people have some experience with and can relate to.

Summary and Discussion

This report draws on several data sources, each of which includes a segment related to family communication and decision processes about plans for both natural and nuclear disasters. From the telephone interviews we learned that respondents in the Dayton, Ohio area are much like people interviewed elsewhere in the United States: they are generally willing to testify to their endorsement of the concept of home basement use and sharing when disasters occur.

Our concern, however, has not primarily been to replicate this finding. We were more interested in the interactive and dynamic processes that underlie this testimony. Some people have argued with us that asking such questions in telephone or face-to-face individual interviews is obviously ridiculous anyway--that to voice opposition to home sharing in crisis times is akin to opposing motherhood...and that in any event most people don't think very deeply about the significance or implications of what they are endorsing in such interviews.

Independently of whether the first argument has any merit, we have been interested in obtaining data that more realistically portrays the processes that people go through as they attempt to cope with the disaster planning issue. Furthermore, as we indicated earlier, the evidence seems clear that typically these decisions

are made jointly in family settings, not necessarily by the single individual one typically interviews in telephone or face-to-face situations.

What do we find here? Primarily we find that when we focus the attention of marital pairs on disaster planning issues (including the more "ordinary" one of tornado planning), they have a great deal of difficulty coping adequately with the problems. Part of this difficulty is because the issue often lacks personal salience to them. But in addition, we find quite typically a significant lack of information about the behavioral alternatives available to them...about the things they can and cannot do, or should and should not do.

It seems clear that the Agency could exercise a strong role as information input provider in the second case...and it may well be possible to have a significant impact on personal salience as well.

What about all the effort and resources already expended on HFRS or CSP campaigns, or other Agency public communication programs...are we arguing that this effort has been wasted? Most emphatically, we are not making such an argument. While we have been critical of the operation and effectiveness of some of these programs over the years, it seems clear that they have done some positive good in preparing the public to adequately plan and react to disaster situations. They have laid the groundwork for the

intensive and directive campaigns that should be mounted in the near future. They have contributed to the general public view of the Agency as a "good" one...even though the public concomitantly admits it doesn't know very much about what the Agency is up to.

How should these information campaigns be designed? Basically, we would like to see them follow the lines of the research study reported here. We went out to couples and gathered information on what their problems were, what their questions were about disaster plans. From this we have developed a set of questions which we feel are of central importance in any message that the Agency puts out about these issues. These are probably not the only important questions, but they do seem to be the main ones we have encountered.

Devising good answers (in terms of accurate content) to these questions is certainly not an easy task, but is one that the Agency has addressed quite often previously. Devising good communication strategies for disseminating these answers is a task the Agency has attempted on several occasions, and whose results we have critiqued on several occasions. The main result of that activity should be the recognition on the Agency's part that our experiences should be input to the development phase of the communication program, rather than be used only in an after-the-fact evaluation capability.